1: Bowen-Jones et al. K-5 (1955-1958) 1961
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Chapter X

THE PRACTICE OF FARMING

We have considered at some length the physical and social environments in which Maltese farming exists, the distribution of crops and of agricultural regions, and examined some of the physical and legal characteristics of the land holdings in which the land is worked. There follows a more systematic statement and a tentative interpretation of farming practice, and studies of the Maltese countryfolk (Plate XVIII). 128

A. Livestock

Livestock in Malta, with the exception of the wandering, wasteland-feeding herds of sheep and goats, is rarely seen or heard. Cattle, pigs, poultry and rabbits are all kept in stockyards or enclosures, and horses, mules and donkeys, when not working in the fields, are stabled the whole time. Their near invisibility has caused us to omit mention of them in earlier sections. As noted in Chapter VII, the Maltese farmer, faced with land shortage as a result of the high population density, has chosen to cultivate stall-fed fodders as short-rotation crops rather than to grow pastures or perennial forages. It is difficult to believe that he has not made the correct choice if the criterion adopted is that of intensive and continual use of difficult land resources and the minimising of waste. 231 [246] 231

Numerically, goats are by far the most important (Plate XVII). During the past century, they increased tenfold in number, a fact which marks the amazingly rapid increase in milk consumption, but in the last decade the trend has been reversed. The indigenous breeds, highly regarded in the Mediterranean up to the close of the eighteenth century, have now almost entirely been replaced by crosses with introduced British Saanen types. These crosses, in which Saanen blood remains dominant to the third or fourth generation, are hardy and prolific milkers, considering the quality of feed. Goats have remained important not only because they still supply about 40 per cent. of returned milk sales (and a large amount produced domestically and sold illegally), but also because, together with sheep, they utilise the great extent of wasteland as natural pasture. Some feeding on field grown forages is practised - during the survey such feeding was observed at Marnisi on broad beans and at Wied Babu on sulla, for example - but this is rare. 234 311 [232] [246]

Land unusable for cultivation, and which makes up over 30 per cent. of the total area, provides the basic forage ration. Breeders and kids are given supplementary feeds of beans and hay crops. Although, therefore, goats are theoretically poor converters of fodder into milk, they cannot be displaced by milch cows without at once offending the tastes of most Maltese for goats' milk and cheese, and making the uncultivable land almost totally unproductive. Sheep, somewhat less numerous than pigs, and by far less valuable, occupy the same ecological niche as do goats. Used domestically in many areas for milking, and by far the cheapest meat animals, these predominantly hairy rather than woolled sheep, of a strong German strain, are one of the 'crops' of the barren lands. In the absence of statistics of fodder consumption, the only evidence available is that obtained in interview. It would certainly seem that sheep and goats use much uncultivated land in their demand for feed, and are almost the only media for obtaining any yield at all from one-third of the land of Malta and Gozo. (See also Chapter X C.)

Pigs, numerically the most important meat animals, are almost all of recently introduced breeds, the English Large White in particular. Berkshire, Wessex Saddleback and Middle White have been tried, but the Large White Yorkshire, even when bred for lean meat to an average weight of 150 lb., has 231 232

[See page 366 -- Analyst]

231 proved its superior adaptability. An interesting point is that, before 1914, Serbia and Croatia exported to Malta large numbers of pigs for fattening, while Yugo-
232 slavia is today importing Large Whites as breeders from this country. It is now
[131] illegal to use other than pedigree boars for breeding, and the success of the Agricultural Department and the relative enthusiasm of the Maltese farmer in raising pig production standards have made Malta self-sufficient in this respect at least. Local grain and imported beans form the basis of feeding stuffs given by the best farmers. Animal slaughterings now average about 30,000 head per annum.

23 Of the total cattle population of some 6,000 in Malta and 3,000 in Gozo, nearly 30 per cent. are milch cows. This proportion has increased steadily since the first introduction of milch cows in the early years of British occupation. Before 1800, the indigenous Maltese breed, raised as general purpose stock in normal
[177] peasant tradition, alone was of importance. During the nineteenth century, specialised breeds were slowly introduced, a process which culminated in trials with Swiss Brown, Polish and Jersey cattle during the 1920's and '30's. By 1939, the cattle were mainly of mixed blood with the older strains predominating, and those still found are rapidly being displaced because of their low milk yields of some 1 to 1¼ gallons a day. The only surviving registered Maltese bull is to be seen on a farm at Bingemma Gap. In the post-war period, imported Ayrshires, British Friesians and Durham Shorthorns have proved very successful and popular. The Friesian strains in particular are very effective for crossing, important in that most country herds are still of mixed blood. A typical composition was noted in a stockyard on Delimara Peninsula - 13 milk cows and three heifers consisting of pure polled Maltese, Friesians, Friesian/Maltese crosses, Ayrshire/Maltese crosses, together with seven Friesian and crossed Friesian
[139] calves. Store cattle, of which over 3,000 are annually imported for fattening, are of various breeds, and come in the main from within the Mediterranean region.

231 This cattle population, which supplies half of the total production of milk in
234 Malta, and approximately two-thirds in Gozo, as well as over 75 per cent. of the beef consumed, is a very special element in Maltese agriculture. The imported store cattle have but to be fattened for slaughtering. Trustworthy statistics are lacking, but it would seem that over one-half of the imported fodder is consumed for this purpose.

The milch cows are given a maintenance ration of sulla and other leguminous fodders, and a production ration of imported beans, grains and cake. Carob beans and chopped prickly pear are sometimes used, and *oxalis cernua* may also be fed in moderation.

231 This large demand for fodders has so far been met by maintaining at high
234 level the production of leguminous and grain crops. Only in recent years has it
246 become economic to add high protein feeds. For social and health reasons the human consumption of high protein foods, milk in particular, has been encouraged. It has therefore often been suggested that further concentration on production of forage crops is necessary.

It is probable that such a poli[illegible]ould be both uneconomic and impracticable. In the first place, as long as it requires an average of 6 lb. weight of fodder protein to produce 1 lb. weight of animal food protein, then any country with restricted land resources has to look twice at the wastage involved. Such a country, having to import either animal products or vegetable products, or even both as in the case of Malta, has little to gain by specialising in a production technique in which over three-quarters of the crops grown and imported for feed merely go to maintaining livestock in existence. Thirdly, since that land now grazed by sheep and goats is virtually unusable in any other way, they cannot be simply replaced by cattle. More cattle would mean less arable farming of food crops and this would entail either the loss of potential vegetable exports from irrigated land or, more feasibly, the improvement of arable dry-farmed crops, e.g. sorghums in place of barley.

The impracticability of a policy designed vastly to increase forage production may be proved as follows. The growing of perennial fodder crops is out of the

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242 from December to September during each year, from seven or eight different plant strains.

On irrigated land, an even more intensive succession of vegetables, cucurbits, tomatoes and potatoes is seen. Further variants resulting from the addition to the crop range of tree-crops have been illustrated in Chapter VIII.

Accessibility to markets, as well as general environmental conditions, produce the regional variations already discussed. On a smaller scale still, minor distinctions of climatic and soil types produce minute differentiations which are all-important to the Maltese farmer. Land husbandry may then be said to be controlled by the following forces. First, and particularly affecting the older generations, is the survival of a primitive urge to control land and to maintain it as the basis of subsistence. This now implies that cultivators who normally rely on sales of their produce do in large measure base their husbandry on non-commercial standards. The social and economic background already examined in Section II is thus responsible for making Maltese cultivators a pseudo-peasantry. A recent compilation of farmers' opinions and attitudes shows this very clearly (9). Secondly, and superimposed on the first factor, are the commercial forces which, through the demands of the market, are breaking down the old inbreeding of ideas. Because the internal market for agricultural produce is still rather undiscriminating and because marketing systems are still crude, the new demands on husbandry are partly inconsistent and partly uneven in their effects (Chapter X E). Thirdly, and because of the characteristics of these first two elements, the physical environment still dominates husbandry practice. In some countries, such as the United Kingdom, within broad limits one can say that available techniques, readiness to use those techniques and the dominance of the profit motive all combine to neutralise many environmental variations. In Malta this is not true.

Maltese farming, having already developed so well from a simple peasant basis is now faced by a last hurdle before it can play a necessarily major role in the economy of Malta. Traditional experience has now to be translated into a scientific idiom, application of 'rules of thumb' replaced by an understanding of the processes involved. Without that idiom and without that understanding, imported ideas and techniques will not survive transplanting. Given such a mental renaissance, good husbandry is possible to cultivators already capable of careful hard work.

232 Livestock husbandry, faces the same sort of problems as does land husbandry. The main difference results from the more concentrated impact of new needs on traditional methods. Little is known of Maltese livestock during or before the nineteenth century. John Galt, in 1812 (10), asserted that the first milch cows were introduced by the British in 1809, a statement later re-affirmed by Macgill (11). Boisgelin (12) and Giacinto (13) in 1805 and 1811 do little more than comment on the high quality and repute of the indigenous breed of asses and goats and on the poor quality of the sheep. Even in 1911 (14), the Inspector of Agriculture, F. Debono, was able virtually to ignore milk production, note the near extinction of the Maltese ass, and remark that cheap meat imports allowed farmers to concentrate on non-fodder crops. In the 1920's and '30's changes were slowly occurring but they did not accelerate significantly until World War II.

The Maltese livestock farmer cast in traditional mould is still controlled by land shortage. Only in Gozo is there some grazing and exercise space for animals, and even there the practice of stall feeding is dominant. While animal needs have increased with the change in emphasis from goats and sheep to cattle and from general purpose cattle to dairy cows, the Maltese farmer has not been able, for reasons financial, mental, and of space, to meet these needs.

A preliminary sample survey of the feeding of milch cows and goats made by Charlton in 1956 brought out the following points (15). Of the total sample of goat-herders, 80 per cent. relied on wasteland *xagħra* grazing to supply forage, this proportion being higher in Gozo than in Malta. We also know that very few cattle-farmers have adequate exercise yards and none have real pasturage. Goat and cattle farmers further rely to an inordinate extent on *ħaxix ħażin* - rough

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weed greens pulled from wallsides and fallow or abandoned fields. Sulla, green barley and the minor legumes make up the remainder of the bulk feed, except for prickly pear which is used as a summer reserve fodder. Concentrates in the form of cake and beans are invariably fed to cattle but cake is rarely given to goats. There is considerable variation in the feeding of calves and kids. The most characteristic feature of livestock feeding is, however, the complete lack of uniformity and the virtual absence of any rational programme of feeding of cattle. At a relatively low level, most Maltese farmers are better acquainted with goats' needs and of course those needs are fairly elastic. With cattle, as the survey showed, every possible range and combination of diet is to be observed. 'Farmers seem to have little idea about the relative nutritive values of foodstuffs such as cake and beans' (16), so that over-feeding and unbalanced feeding are normal. An extreme example is that of a goatherd, newly possessed of a Friesian heifer in calf, through a Government exchange scheme (p. 310), who stall-fed it 15 lb. of cake, 3.5 lb. of beans, one bundle of green sulla and half a sack of barley straw daily. At the same time there exists a 'pedigree complex' and the possession of an animal with a known lineage and some Friesian blood is a matter of pride.

Animal diseases are prevalent, ranging from endemic infection by *brucellosis melitensis* and pregnancy diseases in goats to contagious abortion and mastitis in cattle. Most of these result from unhygienic and inadequate accommodation. The Maltese livestock farmer, as noted later, operates on a small scale and with little capital. The provision of adequate facilities can only be done with borrowed money. Since 1956, Governmental loans and subsidies have been available for helping with the construction of stock houses, water supply systems, etc., as well as for purchases of machinery. Instruction in animal care and hygiene is also provided. Mental resistance to change is not as great in this sector as in crop-production because losses through disease are more catastrophic in their impact on individual farmers. Nevertheless, even here, the better the traditional practices, the more loth cultivators may be to accept advice. Thus in a case-study of a very efficient fraternal partnership holding some 70 *timien* and practising mixed farming, a standard reaction was found. This partnership had no shortage of capital, and the production of an average of 50 gallons a day from 20 milch cows is high for Malta. Unfortunately, with livestock as with crops, the high degree of success attributable to their able application of traditional ideas seems to bar the way to future progress - 'A good cowman knows as much as a vet.'. At the other extreme lie the perpetually indebted small producers with insufficient land, money or even traditional expertise, for whom advice must be simple and fundamental. Here again, the Agricultural Advisory Service can only produce slow improvements.

With livestock, as with husbandry, the need for improving standards is obvious. The maximum efficiency in the utilisation of all possible resources is essential to Malta. Work is in hand, limited unfortunately by the perpetual shortage of revenue and trained personnel (a situation which is the result of Malta's peculiar evolution), in a variety of ways, from studies of balanced rations for livestock and improved crop strains even to a pilot survey of the seaweed resources of the Island (17). But, before any recommendations can be implemented, they must be accepted by the farmers of Malta and Gozo.

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234 654 pasteurized milk at about this same price to the general public, regardless of the administrative, collection and pasteurization costs involved and the losses on surplus milk wasted. The subsequent deficit is born by the Government exchequer and may therefore be regarded as a Government subsidy to the milk producer. Its effect in the past few years has been immense in that it has encouraged herdsmen all over the Islands to increase their production to the maximum at the expense of arable cash-crops (Cases I to IX).

232 654 (b) As part of the general policy to improve farming in the Islands and, at the same time, to eradicate certain livestock diseases the Government has made available to herdsmen an exchange scheme whereby they may exchange diseased animals for newly imported stock. This has also included goats, some dozen of which could be exchanged for a cow. Along with this stock improvement policy has gone official limitation on the number of animals entering the Islands since the present overstocking is regarded as undesirable. Farmers have however not been slow to find ways round such limitations - one popular method of acquiring a cow having been, for example, for a farmer to buy in weak and ailing goats and effect an exchange of these for a healthy imported heifer.

654 (c) Of considerable help to the arable farmer as well as the herdsman has been the programme of 'Loans and Grants' ('Self u Donazzjonijiet') by the Government to farmers for the purpose of making capital improvements in the farm and its operation. The low-interest loans have been particularly popular and have already enabled many farmers to buy, for example, their own rotary cultivators (Case II). One important limiting feature in these loans has been the ignorance on the part of many farmers of the system and the suspicion felt by others of something new and not clearly explained.

(d) Of particular concern to the arable farmer have been the various distributions of free or subsidized seeds, potatoes, tomatoes, etc. In some cases the aim has here been to popularize some new departure from custom such as a variety of early potato new to Malta or to introduce farmers to the 'Balanced Ration' ('Ghalf Bilanċjat') experiments of the agricultural authorities.

242 654 (e) In this same category of aids to farming comes the recently-formed Agricultural Advisory Service, which has itself been responsible for many of the new moves mentioned and also for the series of public lectures to farmers (Section 4), which have been part of the effort to improve farming in the Islands by providing an up-to-date research

654 (a) to decide which crops, animals, feeding stuffs, machinery, methods of farm management, etc., are most likely to improve Maltese farming conditions, and

(b) to pass this information to a conservative and doubting farming public.

654 242 A central feature of official policy since 1956 has been the Agricultural Advisory Service (B/252), modelled on the parallel organization in the United Kingdom. In Malta this body has aimed to co-ordinate research and experiment with encouraging the farmer to adopt proven results. Within a short while of its inception the Service was concerned with detailed investigations into pig rearing, poultry feeding, dairying, potatoes, tomatoes, fertilizers and other agricultural topics in the Islands (B/252, pp.3-4). At the same time a great deal of importance was attached to demonstrations and lectures to farmers. In addition broadcasts were made over the Rediffusion system and these were supplemented by a certain amount of printed publicity.

654 242 544 232 The easiest part of the programme of lectures and demonstrations was to get farmers and others to attend the meetings. Those who stayed away did so either because they could not be available at the appointed time or, more usually, because they could not be persuaded that foreign experts could know anything applicable to farming in Malta which the local farmer did not know already. The attitudes of those who did attend was revealing. In many cases the novelty of the event was the attraction but there was also a large element of reasoned interest. Attendances varied from a few dozen farmers in some of the smaller villages to 200 in Xaghra and other large rural settlements, while, in January, 1958, no less than 700 people assembled in Rabat to be lectured by four of the specialists then working with the local Department of Agriculture, and to see a film on "Clean Milk". The reactions of this audience were typical of the response to the whole range of lectures and demonstrations and illustrate clearly the kind of problem which any would-be improver of agriculture can expect to have to face in Malta. There was, significantly, only one Maltese woman in the audience at Rabat of which some two or three hundred appeared to be non-farmers and concerned rather with free coffee in the interval than with the topics of the lectures. Of the rest, however, some farmers had made considerable journeys to attend while more than a few of these had never set foot in a meeting hall or attended anything in the nature of a lecture or lesson in their lives. For them it was a 'Sunday-best' outing. Even the bravest

654 of those present could not however be persuaded to ask any
242 questions of the 'experts' or to develop any discussion,
544 although everything not in Maltese was translated copiously.
232 They were over-awed by the proceedings but were not slow to seize on topics raised by the speakers for future discussion among groups of farmers. The average age of those present was lower than that of the full-time farming population on account of the presence of large numbers of disinterested village youths and young men. But the true farmers themselves paid attention to what they were told and were especially impressed by the film.

Some of the points raised were dismissed as "not suitable for Malta". Some suggested measures were "interesting but unremunerative", notably the efforts, demonstrated in the film, to achieve cleanliness in milking. The farmer could not readily comprehend how he was to profit financially if he were to add what to him were needless tasks to an already heavy time-table. Yet, on the other hand, he was sceptical when told that many of the jobs which he is accustomed to performing could be replaced by more efficient methods. Being unable to read of farming outside Malta the illiterate believes that no methods could be better than those tried, tested and taught by his father and grand-father before him. Hence a major part of the work of an advisory service is "to create conditions which will give the farmer confidence in the advice given. The adviser must be above creed or party and honest in all his dealings. In addition, however, some inducement must be offered to the farmer to accept advice and the most powerful inducement that has yet been found is money - cash - a better price"[39].

654 232 One example of this inducement in practice was afforded by the study of pig feeding using balanced rations which was undertaken by the Agricultural Advisory Service early in its career. Haesler was able to show that "the high mortality rate in small pigs can be considerably reduced, and what is more important, losses in pig keeping have been turned into profits" (B/252, p.3). The farming public was assailed with Maltese-language leaflets[40] showing how the traditional pig feeding patterns were both wrongly balanced and generally excessive in quantity and encouraging pig breeders to invest in the prepared balanced rations ('Ghalf Bilanċjat') then on the market. This improved diet would, it was claimed, not only produce a better pig but would result in reduced costs of feeding. This prospect appealed to the farmer, who hastened to purchase the balanced ration particularly as such rations were subsidized by the Government[40] in order to encourage

654 their adoption. Sales soared after the ration appeared
232 and the idea spread rapidly from farmer to farmer. Unforeseen difficulties soon emerged however and threatened to make the ration unpopular among pig breeders as quickly as it had become popular a short while before. Partly on account of ignorance and illiteracy and partly because of the lack of the correct kind of propaganda farmers began to find that the ration was not the magical remedy to their pig problems. A sample investigation, by the writer, in Gozo among farmers who had purchased the balanced ration showed that some of them had understood it to be a kind of medicine to be given in addition to the diet normally fed, others treated it as one item of the feed and mixed it with their normal ration to the pigs, while most common of all was the complaint that "I've been feeding the balanced ration for a week and there is no sign of the promised improvement so I'm using no more". Individuals of this latter inclination not only stopped purchasing the ration themselves but spread ugly rumours about it among their fellows. None of those with such complaints would consider approaching the Officers of the Advisory Service - as they had in fact been invited to do in the leaflet[40]. For them the new pig feed was a failure.

654 Illiteracy produces a feeling of inferiority in most
829 cases which makes the farmer too timid to approach a
242 department or an official on some problem. Moreover the
232 written word is for them suspect. Therefore if they are to be persuaded to adopt new techniques in their farming the instruction will have to be personal and followed up with further help and advice when difficulties and lack of appreciation of what is intended emerge. For these farmers lectures are too remote. Demonstrations of new crops or cultivation methods, etc. are more likely to succeed but are insufficient in themselves. Unfortunately a large qualified staff of visiting advisers would be necessary to supervise farmers at such an individual level. In Malta this is not yet available. Even if it were the farmers' trust would have to be gained and maintained at every stage. In the past such trust has been conspicuous but its absence with the farmer believing that everyone with whom he comes in contact is anxious to take advantage of his illiteracy for their own gain. There has been no-one to give him professional, impartial advice on farming and the new Advisory Service with its free information and other help to the farmer is still something
654 of an unknown quantity. The Agrarian Society (B/286) has
232 in the past been responsible for a certain amount of
242 research on agricultural topics in Malta but does not appear

854 to have made its presence felt among the farmers themselves.
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When a greater number of qualified personnel are available the Advisory Service and its various ramifications may go a very long way to improving Maltese agriculture and raising the profit-margin and therefore the living standards of the farming population. But in its early stages it has had to concentrate on the present farmers of Malta and Gozo who are, as has been emphasized, not only often illiterate but frequently near retiring age as well. The younger generation of farmers' sons, on whom the future of agriculture in the Islands will depend, have had to be overlooked. But if they cannot be persuaded to stay in farming the improvements accepted after great effort by the generation of their fathers will mean very little.

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In Malta and Gozo there is nothing to compare with the Young Farmers' Clubs of the United Kingdom; nothing in fact to serve as a nucleus around which an enlightened younger farming generation might develop. Neither is there anything in the Islands of the nature of an agricultural college where young farmers might be trained. It is possible that the primary schools in rural areas might provide a means of contact between the agricultural authorities and the children of the farmers but the difficulties which would arise are clear. Nevertheless such an approach as this might do something to alter the attitude to farming which is one of the biggest problems facing the industry in the Islands today. If farming and other rural children could be shown that farming is no less respectable than the variety of alternative occupations it might persuade them to stay in the industry long enough to build upon the improvements now being introduced.

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As was clear in the case of the balanced rations for pigs mentioned above the farmer is not slow to take advantage of a financial subsidy. The major example of this is the recent growth of the dairying industry with the guaranteed price to producers for milk sold to the M.M.U. (Section 2). In short, official policy here has been to make milk production profitable for the producer but at the same time to maintain a low consumer price for the pasteurized product - at a level producing a loss the cost of which is borne by the Government. The totals of milk purchased from producers by the M.M.U. reflect the rapid increase in this aspect of farming in recent years. Milk surpluses (partly losses) also increased markedly as did the percentage of milk deriving from cows rather than goats[41].

[433]

159 barley (xghir) fluctuate but cake-feed is all bought from
432 fodder agents. Milk production varies with season, being
234 at its peak in the Spring. The price given by the M.M.U. changes accordingly to the extent of a few pence per gallon. On the basis of an average feed programme one can get some idea of the gross profit margin on which Pawlu is working, the absence of any allowance for labour costs being noted.

*159 A sample feed programme with daily costs for one cow
234 yielding about three gallons:
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	£	d
3 rtal xghir (barley-bran)	1	- 4
8 rtal cake.....	3	- 6
5 rtal sulla (silla).....	1	- 4
8 rtal beans (¼ tomna)....	5	- 0
1 basket prickly pear.....	1	- 0
½ basket straw.....		6
	12	- 8d

Selling the three gallons at 5s 6d per gallon (see above) brings in 16s 6d per day, leaving a profit on the one cow of 3s 10d.

A sample feed programme with daily costs for 46 goats yielding about ten gallons per day:

	£	s	d
3 tmien (48 rtal) beans....	1	- 10	- 0
1 tomna xghir (barley).....		6	- 0
4 bundles sulla (silla)....		5	- 0
Furrajna (green barley)....		5	- 0
	2	- 6	- 0

Selling ten gallons per day at some 6s per gallon thereby brings Pawlu a further profit of 60s minus 46s, or 16 shillings. This, together with the 3s 10d from each of his two cows, amounts to a net income of approximately 23/8d per day.

*159 Unlike most of his fellow herdsmen in both Islands,
156 Pawlu is fully aware of the relation between feed programmes
234 for livestock and milk yields (B/379). He does not share
● 232 the common view that "The more the feed the more the milk". He is also well aware of the economics of his situation as described above and, as seen, his aim is to cut the costs of fodder by producing more on his own holding and thereby increase his profit margin on milk sold. This is a most widespread feature among Maltese and Gozitan herdsmen today. But Pawlu goes further than most in that he is conscious of the need for a 'balanced diet'. Not only does he carefully regulate the types and quantities of feed which he gives but he also follows the latest researches of the Department of Agriculture, especially that of Haesler (B/252) and others working on this and similar topics. The average illiterate Maltese farmer tends to dismiss the statements and efforts of such experts as "No good for Malta, and

*159 156 234 232 useless in my district" but Pawlu, who has at all times in his life been conscious of education and a knowledge of things outside his village, is prepared to consider suggestions on their merits. This attitude pervades the working of his farm as a unit and has had important repercussions within his family. (v. Section 4).

*159 156 829 In spite of his own lack of advanced formal education, Pawlu has in fact an awareness of its importance which is still uncommon in rural Gozo. He is constantly stressing the need for education in its widest sense, both general and technical. He is anxious for his children to be educated to a standard far above his own, while, in the wider scene, he recognizes the importance of education for the farmer and farming. His attitude to the course of lectures for farmers (Section 4) is typical of the man. He observed that "attendances at the lectures have been big because the farmers are interested - they wouldn't go if they were not". The ideas put forward by the experts are weighed by the farmer and, if considered 'good ideas', are discussed at length in the villages or at the It-Tokk market on Sunday mornings. These lecture courses for farmers, and others like them such as the important McClemont demonstrations and lectures on dairying technique (Section 4), fail for Pawlu in so far as they do not lead to individual contact between specialist and farmer. No farmer would dream of making comment or criticising 'officialdom' - with which he naturally associates ventures like those of Haesler and McClemont[50]. "The Maltese back down much more easily than do the English in their relations with the authorities. In England you might complain to a Government Department and there would be argument for a day but in Malta such a complaint would mean petty victimization for years". The farmer blames "clerical inefficiency" in Valletta for what he considers has been the failure to follow up the McClemont or other recommendations but no farmer would seriously consider complaining in person to officialdom. They just argue and become increasingly bitter with their lot.

* 159 178 829 [554] [464] **Farming** for Pawlu means independence. He complains of the inferior social position which the farmer holds in Maltese society today and observes that the present generation of young people demand the means to enable them to equal the people of the towns in appearance, leisure and other superficialities. The old farmer with little formal education is not troubled by these notions. His life is the only one he can comprehend - apart from which his daily round leaves him little time to think. The youngster, on the other hand, is desperate for an eight-hour job with steady income and leisure time in place of unpaid field work with his parents.

*159 241 B. Utilisation.

Most of the 1 tomna of cultivated land is permanently used for potatoes intended for domestic use. There are also a few patches of garlic, beans, onions and other vegetables. A few vines and prickly pear plants give some saleable produce e.g. prickly pear fruit sold from door to door fetched £10 in 1956.

*159 231 234 C. Livestock.

November 1956:
45 goats, 7 kids, 2 billies, 1 horse, 24 hens and rabbits.
November 1956 to July 1957:
15 goats died.
July 1957:
50 goats.
September 1957:
48 goats, 11 kids, 1 billy.
November 1957:
25 milking goats, 10 kids.

*159 42 D. Capital.

(i) No freehold property and little equipment except for cart.
(ii) In perpetual debt - probably between £60 and £100 behind in outgoings at any one time (v. Table 5).
(iii) Receives C.A.R.E.[21] food gifts.

*159 464 E. Labour.

No family labour. Of 10 surviving children, only two are above school-leaving age and they have non-agricultural employment.
- Hires no labour or machinery.

*159 434 234 [435] F. Production and Sales.

(v.Table 5)
(i) Goats milk sales range from December minimum of c.20 lbs. per day to May-August maximum of c.70 lbs. per day (1957).
Typical annual pattern of usage in recent years:
2500 gallons sold to M.M.U. (@ average price 5/9 per gall.)
200 gallons sold privately (@ average price c.5/6 per gall.)
200 gallons used domestically.
Gross income from milk sales are of the order of £750 p.a.
Known expenditure on feed of the order of £400 p. .
Net income probably less than £200 p.a.

[432] (ii) Sales of old milch goats and kids fluctuate with condition of herd and with disease. In 1957 10 diseased goats fetched 70/- each and 5 kids c.10/- each. Replacements cost between £8 and £20 for Maltese-Saanen goats in milk.

*159 232 234 G. Husbandry.

(i) Livestock Feeding. Typical pattern:
50 goats receive 4 bundles sulla, 25 lbs. beans and 50 lbs. cake in summer. During winter more greens and less beans. Very little grazing.
(ii) Herd suffers badly from pregnancy and after-birth diseases and also from abortion. No prophylactic or remedial measures known to the farmer who, like most of his type, merely tries to sell sick stock for slaughtering and replaces with new.
(iii) No real control of lactations and most of milking goats are mated between September and February. Is reluctant to try summer serving since suffering losses in 1956. Regards yield of 2 lbs. per day as minimal.

H. General.

159 433 This farmer is typical of many herdsmen. Without capital or land he derives from previous generations of peripatetic herdsmen who milked their goats on the 'rounds' of urban houses. Now forced to sell his milk to a centralised agency (the M.M.U.) for pasteurisation he is protected from price decline during the summer season of over-production but prevented from obtaining extra profits and perquisites (often of rather a dubious character). Without capital he has to rely on credit terms for fodder purchases and therefore pays merchant prices which are higher than those of other farmers. A garden plot and the stock supplies about half the family's food, without which increment the family economy could not operate. There is no possible future except on a low level for this type of production.

159 231 CASE VI : Gaetu (A milk producer with a considerable land holding.)

232 In May, 1957, Gaetu had 9 cows and about 50 goats. During the year he sold some thirteen goats for the abattoir and of the eight kids born in the year several died "because they didn't want to go on living". In November of the same year three of his cows had to be killed, two of them on account of 'paralysis of the feet' (probably related to lack of exercise and perpetual stall-feeding). The goats get scarcely more grazing than the cows, being limited to the small yards adjoining the main farm building (v. Map 8).

The compulsory slaughter of the three ailing cows (for which he will be entitled to import replacements) has profoundly shaken Gaetu's faith in cows in general. He maintains that he "will put his efforts into goats for the loss of a goat means a loss of £10 against the £200 in the case of a cow."

159 234 [311] [246] [435] [464] Together with his adult son, Gaetu works 23 tmien of land, including some which is irrigable; and the emphasis in cropping is heavily on fodder production. But they still have to buy in a considerable amount of feed. For example in the 1956-57 winter Gaetu spent £175 on sulla, £99 for straw, and £15 on winter potatoes which were in glut. He feeds his animals according to yield which appears to mean that he gives more food and attention to the better yielding animals. "There is no profit in providing expensive fodder for poor-yielding animals." In fact, however, Gaetu has [451] very little appreciation of his profit. None of his labour or that of his son is counted as a cost and he keeps no detailed account of income and expenditure. He gets receipts from the M.M.U. but otherwise, being illiterate himself, feels "reluctant to ask anyone for a written [65] statement". Nevertheless he reckons to be able to put together some sort of balance sheet for the income-tax authorities each year.

CASE VII : Wenzu (A goats' and cows' milk producer with a small land holding.)

Like Case VI, Wenzu has been a goat herder and is now anxious to concentrate on dairy cows. At present he holds 4 Friesians, belonging to himself and his sons, but he wants to import Ayrshires. This cow, says Wenzu, is better suited to Maltese conditions, needing less feed than the Friesian and standing up better to long periods of confinement in cramped stalls. Wenzu became interested in cows when the Government forbade the selling of raw goats' milk in Valletta. For a time thereafter he sold bottled milk in the capital and then returned to selling raw goats' milk in still unclosed areas such as nearby Cospicua until that too came to an end with the evacuation in 1940. After the War he went back to cows' milk production and sold his output to the M.M.U. He acquired the Friesians through an exchange for inferior quality and diseased goats organized by the Government (one cow for 15 goats). At present, he says, cows' milk production is the more profitable ("Six cows will support a small family") but that this would not be so were it possible to give goats good grazing land at low cost. He reckons that good grazing saves 15/- per day on the fodder bill.

Wenzu's Case illustrates an important feature of the study of a predominantly illiterate section of society. This is the prominence of personality in the thoughts and actions of the individual. Unable to read and suspicious of what he may hear over Rediffusion, Wenzu relies on personal contact to a very considerable degree. This is clear from a brief survey of his life. He speaks nowadays of a certain Dr. MacFarlane whose veterinary skill and advice impressed him and who originally recommended him to keep Ayrshires. To listen to Wenzu talking of this "Scots Doctor" one gathers that Wenzu last spoke with him quite recently. In fact, however, Dr. A.M. MacFarlane was Superintendent Veterinary Surgeon in Malta some half a century ago! A Mr. Hurst gave him advice on bulls some 25 years ago while, much more recently, Mr. Ebejer Blythe of the Department of Agriculture gave him much valued information on lucerne as a fodder and, latest of all, Dr. Godfrey Alton, the veterinary expert, has become something of a help for the injections he has arranged. Evidently, therefore, any improvements in Maltese farming have a greater chance of success if this element of personal contact - particularly in the cases of illiterate farmers - can be established. One man who will argue with one farmer for a morning on a single topic stands a greater chance of general success than has the big public lecture or even the practical demonstration

159 - Has a higher opinion of his ability as a stock farmer than facts warrant.
156 - Aims to build up cattle herd in place of goats since he assumes (with no factual background) that profit [231] will be greater.
- Much influenced by personalities and is willing to accept advice uncritically if the person giving it is, in his opinion, sound.
- Lacks educational background and experience necessary to make a real profit from his herd, but seems content with present living conditions.

CASE VIII : Niklaws (A working partnership of five brothers with diversified production)

159 472 [423] [234] Niklaws is the primus inter pares in a permanent partnership of five brothers. The syndicate farms some 70 tmien and, in February, 1957, had a herd of thirty cattle. There is some division of labour among the five, with one being acknowledged the expert on cattle, another "knows most about the fields", and a third the driver and general business manager. Both their father, who died in 1915, and their grandfather were farmers but the brothers have considerably added to the holding.

159 472 234 433 The emphasis of the partnership is now heavily on cows' milk production. They retain only two goats. With about 20 cows in milk they aim to produce some 50 gallons a day - Niklaws observes that the yield from cows can be maintained while that of goats fluctuates markedly with the seasons. Costs of cows' milk production are also steadier, says [232] Niklaws, with fresh greenery in the winter and prickly pear in the summer months as supplements to the standard items of diet. The fodder produced on the brothers' own fields has to be supplemented by purchased feed but judicious use is made of vegetables in glut, especially cauliflowers which could be bought by the farmer at 1s per sack in early 1957.

159 407 454 234 [429] Mechanization on the farm includes the hiring of a mould-board and tractor to deep-plow the land every fourth year (cost - £1 per tomna), and the hiring of a threshing machine. The brothers themselves own two hand cultivators and a small van, complete with the partnership insignia on the door. Currently much capital is being put into building a large, two-storey cows' shed within the village. The brothers aim to centralise their milk herd here and plan to have an adjacent exercise yard and water tank. At present their animals are divided among three widely separated byres, although all of these are easily accessible by road - and [435] the van. One of the existing sheds was built between 1949 and 1952 at a cost of "£3,000". On the costs of the present building Niklaws will divulge nothing. His attitude suggests that the money is coming from saved reserves rather than a loan, for he appears reluctant to borrow money even on low interest terms "because anything might happen to prevent the money being repaid."

*159 43 (iv) Potatoes are grown regularly for the home market in spite of price variations - reported as ranging between 50/- per qantar in 1956 and 8/4 in 1957.

(v) Home grown fodder and forage makes up c.80% of non-concentrate feed. Other crops make members of the partnership self-sufficient in foodstuffs (at a high level of consumption).

(vi) Annual sales of wine-grapes c.40 qantar.

(vii) The response to general variations in yields and prices is to maintain the general pattern of production. The syndicate has enough capital to survive periodic losses and therefore deliberately ignores fluctuations. The only alterations made in a planned cropping sequence result from natural hazards e.g. if a late crop of sulla fails as a result of poor germination, a rapid switch may be made to balck vetch.

c. Husbandry. General standards are good.

* 159 242 (i) Soil maintaining rotations are carefully and consciously practised. Thus leguminous fodders are regarded as essential in arable farming.

(ii) Fertiliser application is heavy:
- Organic manure is applied for the first two years of a four year cycle at a rate of c.60 sacks per tomna.
- Sulphate of Ammonia is applied to all the fields each year at a rate of 15-20 sacks per tomna.
- They do not regard the idea of green manuring with any favour although they use dry vegetable refuse mixed with dung.

(iii) They are very conscious of minor regional differences in soil and climate and regard the parcellated holding of selected land much more important than convenience of working a consolidated holding e.g.
- 'earliness' is associated with coastal situations and "early tomatoes will not come up in Żebbuġ".
- soils are classified as follows:
  - 'ħamrija' (red) is good for all crops
  - 'abjad' (white) for cereals and tomatoes but not for potatoes.
  - 'sewdina' (grey) for sulla and tomatoes.
  - 'tafli' (clay) poor for green crops.
  - 'ħirbi', an intermediate soil, easy to work.

The differences between these types and the presence or absence of nodule beds, saline layers etc. are held to be sufficient justification for rental differentiation as between fields and parts of fields.

This articulate consciousness of environmental variations even in this case reinforces conservatism and much more importance is attached to such natural 'controls' than to crop strains.

* 159 ●232 (iv) Cattle are well housed and fed according to yield. Very vague about balanced feeding and rely on traditional greens, beans, hay and cake. Nevertheless in the spokesman's own words they are aiming at 'better management of the cattle rather than more animals'.

* 159 829 232 242 (v) In some ways, the high standards achieved using traditional techniques are proving a barrier to further technical advances, e.g. the cattle are relatively free from disease and therefore more trust is placed in the expertise of the syndicate than in the 'book-knowledge' of a vet., e.g. whatever experts may say, any crop innovation must be demonstrated successfully and in the immediate locality.

* H. General.

159 472 451 (i) In some of its characteristics this type of syndicate is not typical of Maltese farming systems. e The partnership seems to derive historically from a line of large farmers and is now held together by the drive and ability of one of their number.

*159 472 451 181 (ii) Nevertheless if one ignores the partnership organisation one may use this case-study as illustrating the practises and modes of thought of the most highly developed type of Maltese farmer.

- Characteristically there is a marked reluctance to give any financial information. Official records and returns are even less accurate than in the case of smaller-scale and more ignorant cultivators. Some records are certainly kept by the group but individual shares in gross income do not seem to be formally arranged. There does no seem even here to be either a monetary evaluation of their own labour or any assessment of net profit as distinct from gross income. Receipts appear to go into a central treasury which is drawn on by agreement over each specific case.
- Although there is present considerable financial acumen this is a matter of peasant shrewdness rather than any real commercial understanding.

*159 433 181 242 - Yields are good - tomatoes will average 15 qantar per tomna, grapes 10 qantar per tomna, but these are attained by the careful application of proverbial wisdom and not by the possession of better scientific understanding than their neighbours.

*159 181 ●232 242 - In spite of the fact that the syndicate's capital reserves and their practical abilities are considerable, the physical environment dominates their actions. They are not prepared to experiment themselves and they look askance at those who are. One has an unhappy feeling that as already noted, their very success with traditional methods inhibits their acceptance of new ones. Thus even with farmers such as these there is a great mental gulf between them and typical farmers of Northern Europe and between them and their advisers.

*159 472 464 CASE IX : Antnin & Gakbu (A long-established partnership of two unrelated stock farmers now engaged in cows' milk production.)

Both these men are married and occupy houses in the same street. They have operated as a single farming unit during their whole working lives and it is not always clear whether even they can distinguish which property belongs to each. The teenage eldest sons of each man work full-time with their fathers whose wives occasionally assist with field-work.

* 159 178 234 Some few years ago the two friends had 36 goats. By 1958 only two remained and the emphasis had swung to cows' milk production. In 1956 they had about 18 cows; eighteen months later the joint herd had doubled in size. Their aim has been to build up as large a herd as possible as quickly as possible in order to benefit from the guaranteed price offered by the M.M.U. for milk produced. The two men insist that they are at the same time striving to build up a

159 178 234 substantial herd to hand over to their sons who, however, show no inclination to stay in farming.

*159 232 829 234 A glance at their herd reveals their interest to be in quantity rather than quality. They admit, moreover, that they lack a good deal of knowledge on management of a herd of this size. A number of their cattle die from diseases and ailments of which Antnin and Ġakbu have little appreciation - official sources revealed that two which died in 1957 had anthrax. Their own inclination is to slaughter an ailing animal for meat before it dies naturally. If a cow dies without replacement from the Government they become very resentful. They also suffer a high death rate among imported calves and again blame 'Government'. "The Government never tells us anything about the rearing of animals" assert the two men somewhat naively since they also maintain that "no-one but the farmers knows farming".

*159 234 231 In 1958, twelve of the cattle were Bastard-Inglizi type As the sanitary authorities would not grant a license for a larger herd to occupy the present makeshift accommodation (a patch-work, corrugated iron shed) Antnin and Ġakbu aimed to replace these Bastard-Inglizi with the same number of Friesian stock, though would have preferred to have gone on increasing the number in their herd - and thereby the amount of milk sold to the M.M.U.

* 159 234 433 (246) Antnin insists that "cows yield according to the amount they are fed". When asked for an estimate of the cost of producing a gallon of milk he asks "Who knows?" ("Min jaf?"). The fields held by the two men produce a considerable amount of fodder but much more has to be purchased. During glut conditions they feed very cheap cauliflower and, in the dry months between June and September, give the herd prickly pear at the rate of a lorry-load per day. They are almost unique among cows' milk producers in Malta and Gozo in that they are able to graze their animals on War Department land nearby although they have no guarantee of tenure.

* 159 434 426 Despite the large holding of land and the recent rapid increase in the size of the herd, the financial position of Antnin and Ġakbu is precarious in the extreme. They are operating in a permanent state of DEBT, and have a fluctuating debit account with the dealer who supplies them with fodder (cf. Case V). This makes them reluctant to take on any new debts at high interest rates. The Government loans at 1% do however appeal to them as means of buying more cattle and still further increasing their milk production. Their debt is such that the two friends can rarely keep female calves but have to sell them to pay hire-purchase instalments on cows.

*159 231 The cattle are very mixed in breed including "Bastard-Inglizi", supposedly pure Friesians and crosses between the two.

*159 D. Capital.

(i) No freehold property.

421 (ii) In perpetual debt, no reserves and frequent borrowings, particularly from the Government.

[423]

[454] (iii) Equipment - usual hand tools

- rotary cultivator bought with a Government loan of £550, repayable at £100 p.a. plus 1% interest.

[407] - small motor van, bought in 1953, for transport of milk.

[312] - no piped water until Feb. 1958.

E. Labour.

*159 464
- No permanent hired labour.
- One man and his daughter together at 30/- per diem and one youth at 25/- engaged at busy times.
- Family labour: two partners and their two eldest sons work full-time and there is additional help from wives and children.

F. Production and Sales.

*159 434 435
- Income almost entirely from sale of milk to M.M.U. Production varies greatly: June 1957: 50 galls. daily; Dec. 1957: 35; Feb. 1958: 80. Sold at 5/6 to 6/- per gall.
- Male calves sold to butcher at £10; females sometimes sold at £30-£40 to pay debts.
- No accounts kept of feeding costs. These include one truckload of prickly pear (30/-) daily from June to October, beans at 55/- per qantar and cake at 46/- (July 1957). A considerable amount of grazing is carried out e.g. on sulla bought green at £6 per tonna.
- Potato sales insignificant and in 1957, owing to glut, involved a loss.

[433]
- Vegetables produced are all consumed by the families.

G. Husbandry.

*159 231 (i) - The importance attached to grazing of cattle is unusual. (Most Maltese cattle are stall-fed all the year.)
- The emphasis is on numbers of stock rather than on their quality. The turn-over from goats to cattle has been helped by the government exchange scheme and by Govt. loans.

●[232]
- Occasional outbreaks of disease unnoticed until too late.

[241] (ii) - Crops are often neglected owing to time involved in animal husbandry.

*159 234 829 H. General.

The partnership is attempting to profit from guaranteed milk prices without the knowledge or skill to do so. The herd seems to have been built up beyond the numbers which can be properly tended by the labour available.

There is little knowledge of modern methods and still less of costs and returns. The view is firmly held that "cows yield according to the amount they are fed" and the reply to the question "How much fodder is required to produce a gallon of milk was "Min jaf?" (Who knows?).

The partners are extremely conservative in their attitude to marketing, suspicious of outside interference and hostile towards the idea of co-operatives. Yet they expect

[426] continued Government assistance.

Their general pessimistic attitude is summed up: "Il-bieđja f'Malta spiċċat" (Farming in Malta is finished).

Despite guaranteed milk prices on which the whole economy is based, the partnership is permanently in debt.

F. Production and Sales.

*159 433 434 234 [272]
(i) Cows milk sales range from December minimum of c.153 lbs. per day to April maximum of c.290 lbs. per day. Regards 3 gallon output per head a day as minimum profitable production. Milk receipts in 1957 c.£1350. (Costs of purchased fodder £1000).
- Goats milk sold for cheesemaking ('rikotta').
- About 20 gallons per annum of cows milk for cheese production.
- Practically no liquid milk drunk by family.

*159 241 [435]
(ii) Potatoes - Winter Crop - September to December.
- 'Early' Crop - January to April.
Relies entirely on Arran Banner. Destination of crop depends on price e.g. Winter Crop 1956/57 sold at 23/4 per qantar for export. Winter Crop 1957/58 sold at 27/- per qantar for local market.

[433]
- Usually produces c.50 qantar per annum and 4 or 5 used for domestic consumption.

[433]
(iii) Onions produced for export and local market and for home consumption. Production fluctuates with climate - yields between extremes of 20 and 40 qantar per tomna.

(iv) - Small sales of vegetables - considerable range grown.
- Fodder production meets c.one-half requirements.

G. Husbandry.

(i) Land
(a) On best land typical sequence would be.

Sept.	(a)	Heavy manuring - 96 bags of dung and refuse per tomna.
Sept.-Dec.	(b)	Winter crop of potatoes.
Jan.	(c)	Artifical fertiliser - Sulphate of Ammonia 1 bag per tomna.
Jan.-April	(d)	Spring crop of potatoes.
May-Aug.	(e)	Summer fallow.
Sept.-April	(f)	Two crops of potatoes as (a) to (d).
May-Aug.	(g)	Onions - on watered land.
Sept.-May	(h)	Cultivation for and growing of wheat crop.
May-Aug.	(i)	Fallow.
Sept.-April	(j)	Sulla.

(b) More usual practice (which is not though of as a strict rotation) is local variation of four-year cycle.
- Manuring. Potatoes, Onions, Wheat, Sulla, Vetches and seed fodders such as Lucerne and Ginglin are introduced into this basic scheme.

(c) On fields near house domestic vegetable crops, e.g. garlic, brassicas, pumpkins, and marrows.

(ii) Seeds
- Mainly relies on own seed but periodically buys seed-potatoes for maintaining standard of 'early' crop.

*159 ●232
(iii) Livestock - Breeds cattle from own stock but prepared to experiment e.g. interested in artificial insemination.
- Feeding. Has a fair idea of fodder needs of livestock but uses traditional combination of green legumes, sulla hay, beans and concentrates without measurement. Has started purchasing ready-mixed balanced feed.

H. General.

*159 433 451
(i) An example of the best type of cows' milk producer. Keeps rough accounts of expenditure and receipts from most of sales but even so does not think in terms of profit-income and does not compute family labour in monetary terms at all.

(ii) Is tending towards specialising in cattle-breeding and is inclined to doubt the value of the arable sector. Is typical of most of his class in that he keeps no accounts of fodder-production on his own